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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,735	05/10/2002	Franciscus Roffelsen		6176

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EXAMINER

FLANIGAN, ALLEN J

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 09/30/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,735

Applicant(s)

ROFFELSEN, FRANCISCUS

Examiner

Allen J. Flanigan

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7,10,13,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 2,5,6,8,9,11,12 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- ____ If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 10 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Libin.

Note in particular the Fig. 3 embodiment, with a machined surface on the outside of the inner tube which has asperities 12 which contact the inside of the outer tube, thus forming a leakage space or “channel” between the tubes.

Note lines 24-27 of column 5 in regard to claim 15.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

~~(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.~~

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Libin in view of Ogata et al.

The use of fins on heat exchanger tubes is utterly conventional and commonplace. They enhance heat transfer efficiency by increasing the effective surface area. Ogata et al. show that it is known to attach fins to the outer surface of a heat exchanger tube. Thus, it would have been obvious to one of

ordinary skill in the art at the time the instant invention was made to attach fins to the tube of Libin to improve its heat transfer efficiency.

Claims 1, 3, 4, 7, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Libin in view of Plummer and Reed.

Libin teaches the claimed method, except there is no clear, explicit indication or disclosure of the claimed expansion step. Libin indicates that the inner and outer tubes are "codrawn", presumably meaning using a drawing die to reduce the diameter of the outer tube. Plummer indicates that it is known in the art that drawing the outer tube into the inner one, or expanding the inner tube into the outer one, are known to be equivalent techniques for providing intimate mechanical contact between concentric tubes (see lines 45-61 of page 2 of Plummer). One known way of accomplishing the expansion step mentioned in Plummer is shown in Reed: See lines 29-34 of column 2 of Reed in particular. Since Reed indicates that this method of expanding an inner tube into an outer tube to be brazed thereto provides advantages ("insure a permanent set of the inner tube wall 1", "provides a positive acting bond between the tubes 1 and 2", "establish a permanent stretch of the outer tube", end of claim 1), it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ this particular method of mechanically engaging the telescopic tubes of Libin to achieve these advantages.

Regarding claims 4, 7, and 16, note that Libin discusses the use of machined grooves instead of surface roughness in combination with solder in the leakage space in the background discussion of the specification (lines 19-29 of column 2), and Plummer also discloses the use of a spiral groove as a leakage space in a double tube formation. The use of such a groove instead of the surface roughness in the Fig. 3 embodiment of Libin would have been an obvious substitution of known equivalents. The particular width and spacing of the groove is considered an obvious matter of design choice depending on the desired size of the leakage space and the desired proportion of contact surface between the tubes.

Claims 2, 5, 6, 8, 9, 11, 12, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining references of record show various double walled tubes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen J. Flanigan whose telephone number is (703) 308-1015. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

A handwritten signature in black ink, reading "allen J. Flanigan". The signature is written in a cursive style with a large, stylized "F" and "n" in "Flanigan".

Allen J. Flanigan
Primary Examiner
Art Unit 3743

AJF
